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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,048	03/29/2004	Thomas L. Bunn	038190/275896	1436

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EXAMINER	
LEUNG, JENNIFER A	
ART UNIT	**PAPER NUMBER**
1764	

DATE MAILED: 04/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/812,048	BUNN ET AL.	
	Examiner	Art Unit	
	Jennifer A. Leung	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 February 2006 and 15 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15,16 and 19-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15,16 and 19-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendments submitted on February 2, 2006 and November 15, 2005 have been received and carefully considered. The changes made to the specification are acceptable. Claims 1-14, 17 and 18 are cancelled. Claims 19-27 are newly added. Claims 15, 16 and 19-27 are under examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 15, 16 and 19-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Shigeyasu et al. (US 4,062,654).

Regarding claims 15 and 27, Shigeyasu et al. (FIG. 1; column 3, lines 28-52) discloses a reactor comprising: a reactor vessel **1**; a first inlet (i.e., at inlet conduit **4**) in the upper region of the vessel **1**; a second inlet (i.e., at inlet conduit **5**) in the upper region of the vessel **1**; a third inlet (i.e., at inlet conduit **11**) in the lower region of the vessel **1**; and an outlet (i.e., at outlet conduit **12**) in the lower region of the vessel 1.

Although Shigeyasu et al. does not indicate that an alkali hydroxide stream being fed to the first inlet **4**, a contaminated alkali halide stream being fed to the second inlet **5**, a chlorine gas being fed to the third inlet **11**, or a treated alkali halide being discharged from the outlet **12**, the apparatus of Shigeyasu et al. structurally meets the claim because expressions relating the

apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, inclusion of a material or article worked upon by a structure being claimed does not impart patentability to the claims. *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935); *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963).

Regarding claims 16, 19 and 20, Shigeyasu et al. further discloses a fourth inlet (i.e., at inlet conduit **6**) in the upper region of the vessel **1**. Although Shigeyasu et al. does not indicate that a depleted alkali chloride solution is fed to the fourth inlet **6**, the apparatus of Shigeyasu et al. structurally meets the claim because expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, inclusion of a material or article worked upon by a structure being claimed does not impart patentability to the claims. *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935); *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 21, the apparatus of Shigeyasu et al. structurally meets the claims because the sequence of adding depleted alkali chloride and contaminated alkali halide to the reactor vessel **1** is considered a process limitation that provides no further patentable weight to apparatus claims.

Regarding claim 22, the apparatus of Shigeyasu et al. structurally meets the claims because the alkali hydroxide is not considered an element of the apparatus.

Regarding clam 23, the apparatus of Shigeyasu et al. structurally meets the claims because the contaminated alkali halide is not considered an element of the apparatus.

Regarding claim 24, the apparatus of Shigeyasu et al. structurally meets the claims because the treated alkali halide is not considered an element of the apparatus.

Regarding claim 25, the apparatus further comprises an outlet (i.e., conduit **13**; FIG. 1) through which a gaseous stream is escapable. Please note that the particular reaction that occurs within the reactor vessel **1** is a matter of intended use, or a process limitation.

Regarding claim 26, the reactor is a stirred reactor (i.e., by means of blade **9** and shaft **10**; see FIG. 1).

Instant claims 15, 16 and 19-27 structurally read on the apparatus of Shigeyasu et al.

3. Claims 15 and 21-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Lohrberg et al. (EP 0 094 718).

Regarding claims 15 and 27, Lohrberg et al. (FIG. 2) discloses a reactor comprising: a reactor vessel **1**; a first inlet **5** in the upper region of the vessel **1**; a second inlet **6** in the upper region of the vessel **1**; a third inlet **8** in the lower region of the vessel **1**; and an outlet **10** in the lower region of the vessel **1**.

Although Lohrberg et al. does not indicate that an alkali hydroxide stream being fed to the first inlet **5**, a contaminated alkali halide stream being fed to the second inlet **6**, a chlorine gas being fed to the third inlet **8**, or a treated alkali halide being discharged from the outlet **10**, the apparatus of Lohrberg et al. structurally meets the claim because expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, inclusion of a material or article worked upon by a structure being claimed does not impart patentability to the claims. *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935); *In re*

Otto, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 21, the apparatus of Lohrberg et al. structurally meets the claims because the sequence of adding depleted alkali chloride and contaminated alkali halide to the reactor vessel **1** is considered a process limitation that provides no further patentable weight to apparatus claims.

Regarding claim 22, the apparatus of Lohrberg et al. structurally meets the claims because the alkali hydroxide is not considered an element of the apparatus.

Regarding clam 23, the apparatus of Lohrberg et al. structurally meets the claims because the contaminated alkali halide is not considered an element of the apparatus.

Regarding claim 24, the apparatus of Lohrberg et al. structurally meets the claims because the treated alkali halide is not considered an element of the apparatus.

Regarding claim 25, the apparatus further comprises an outlet **7** (FIG. 2) through which a gaseous stream is escapable. Please note that the particular reaction that occurs within the reactor vessel **1** is a matter of intended use, or a process limitation.

Regarding claim 26, the apparatus comprises a falling film reactor (i.e., a falling film can be formed on the surface of baffle plates **2**; FIG. 2)

Instant claims 15 and 21-27 structurally read on the apparatus of Lohrberg et al.

4. Claims 15, 21-25 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwase et al. (US 3,743,707).

Regarding claims 15 and 27, Iwase et al. (FIG. 6A; column 6, line 15 to column 7, line 50) discloses a reactor comprising: a reactor vessel **610**; a first inlet **615** in the upper region of the vessel **610**; a second inlet **616** in the upper region of the vessel **610**; a third inlet **633** in the

lower region of the vessel **610**; and an outlet **619** in the lower region of the vessel **610**.

Although Iwase et al. does not indicate that an alkali hydroxide stream being fed to the first inlet **615**, a contaminated alkali halide stream being fed to the second inlet **616**, a chlorine gas being fed to the third inlet **633**, or a treated alkali halide being discharged from the outlet **619**, the apparatus of Iwase et al. structurally meets the claim because expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, inclusion of a material or article worked upon by a structure being claimed does not impart patentability to the claims. *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935); *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 21, the apparatus of Iwase et al. structurally meets the claims because the sequence of adding depleted alkali chloride and contaminated alkali halide to the reactor vessel **610** is considered a process limitation that provides no further patentable weight to apparatus claims.

Regarding claim 22, the apparatus of Iwase et al. structurally meets the claims because the alkali hydroxide is not considered an element of the apparatus.

Regarding clam 23, the apparatus of Iwase et al. structurally meets the claims because the contaminated alkali halide is not considered an element of the apparatus.

Regarding claim 24, the apparatus of Iwase et al. structurally meets the claims because the treated alkali halide is not considered an element of the apparatus.

Regarding claim 25, the apparatus further comprises an outlet (i.e., exhaust pipe **618**; FIG. 6A) through which a gaseous stream is escapable. Please note that the particular reaction

that occurs within the reactor vessel **610** is a matter of intended use, or a process limitation.

Instant claims 15, 21-25 and 27 structurally read on the apparatus of Iwase et al.

5. Claims 15, 21-25 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by McDermott et al. (US 4,246,252).

Regarding claims 15 and 27, McDermott et al. (FIG.; column 3, line 5 to column 4, line 4) discloses a reactor comprising: a reactor vessel (i.e., elongated glass tube **12**); a first inlet (i.e., inlet means **20**) in the upper region of the vessel **12**; a second inlet (i.e., inlet mans **22**) in the upper region of the vessel **12**; a third inlet (i.e., end of bubbler **18**) in the lower region of the vessel **12**; and an outlet (i.e., constricted end **14**) in the lower region of the vessel **12**.

Although McDermott et al. does not indicate that an alkali hydroxide stream being fed to the first inlet **20**, a contaminated alkali halide stream being fed to the second inlet **22**, a chlorine gas being fed to the third inlet **18**, or a treated alkali halide being discharged from the outlet **14**, the apparatus of McDermott et al. structurally meets the claim because expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, inclusion of a material or article worked upon by a structure being claimed does not impart patentability to the claims. *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935); *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 21, the apparatus of McDermott et al. structurally meets the claims because the sequence of adding depleted alkali chloride and contaminated alkali halide to the reactor vessel is considered a process limitation that provides no further patentable weight to apparatus claims.

Regarding claim 22, the apparatus of McDermott et al. structurally meets the claims because the alkali hydroxide is not considered an element of the apparatus.

Regarding clam 23, the apparatus of McDermott et al. structurally meets the claims because the contaminated alkali halide is not considered an element of the apparatus.

Regarding claim 24, the apparatus of McDermott et al. structurally meets the claims because the treated alkali halide is not considered an element of the apparatus.

Regarding claim 25, the apparatus further comprises an outlet **28** through which a gaseous stream is escapable. Please note that the particular reaction that occurs within the reactor vessel is a matter of intended use, or a process limitation.

Instant claims 15, 21-25 and 27 structurally read on the apparatus of McDermott et al.

6. Claims 15, 16 and 19-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujii et al. (JP 63-245979).

Regarding claims 15 and 27, Fujii et al. (Figure 1; Abstract) discloses a reactor comprising: a reactor vessel (i.e., oxygen generator **1**); a first inlet (i.e., via inlet **7** with valve **14**, to premixer **11**) in the upper region of the vessel **1** (i.e., the opening as defined by the outlet end of the premixer **11** is in the upper region of the vessel **1**); a second inlet (i.e., via inlet **8** with valve **15**, to premixer **11**) in the upper region of the vessel **1** (i.e., the opening as defined by the outlet end of the premixer **11** is in the upper region of the vessel **1**); a third inlet (i.e., via chlorine injector **20**) in the lower region of the vessel **1** (i.e., the opening as defined by the outlet end of the chlorine injector **20** is in the lower region of the vessel); and an outlet (i.e., communicating with pump **12**) in the lower region of the vessel **1**.

Although Fujii et al. does not indicate that an alkali hydroxide stream being fed to the

first inlet, a contaminated alkali halide stream being fed to the second inlet, a chlorine gas being fed to the third inlet, or a treated alkali halide being discharged from the outlet, the apparatus of Fujii et al. structurally meets the claim because expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, inclusion of a material or article worked upon by a structure being claimed does not impart patentability to the claims. *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935); *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963).

Regarding claims 16, 19 and 20, Fujii et al. (Figure 1; Abstract) further discloses a fourth inlet (i.e., via inlet **10** with valve **16**, to mixer **11**) in the upper region of the vessel **1** (i.e., the opening as defined by the outlet end of the premixer **11** is in the upper region of the vessel **1**). Although Fujii et al. does not indicate that a depleted alkali chloride solution is fed to the fourth inlet, the apparatus of Fujii et al. structurally meets the claim because expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, inclusion of a material or article worked upon by a structure being claimed does not impart patentability to the claims. *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935); *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 21, the apparatus of Fujii al. structurally meets the claims because the sequence of adding depleted alkali chloride and contaminated alkali halide to the reactor vessel is considered a process limitation that provides no further patentable weight to apparatus claims.

Regarding claim 22, the apparatus of Fujii et al. structurally meets the claims because the

alkali hydroxide is not considered an element of the apparatus.

Regarding clam 23, the apparatus of Fujii et al. structurally meets the claims because the contaminated alkali halide is not considered an element of the apparatus.

Regarding claim 24, the apparatus of Fujii et al. structurally meets the claims because the treated alkali halide is not considered an element of the apparatus.

Regarding claim 25, the apparatus further comprises an outlet (i.e., communicating with laser oscillator **2**) through which a gaseous stream is escapable from the reactor vessel **1**. Please note that the particular reaction that occurs within the reactor vessel **1** is a matter of intended use, or a process limitation.

Instant claims 15, 16 and 19-27 structurally read on the apparatus of Fujii et al.

Response to Arguments

7. Applicant's arguments filed November 15, 2005 have been fully considered but they are not persuasive. On page 7 of the response, Applicants argue,

> "... none of the cited references disclose or suggest a reaction vessel having a stream of chlorine gas that is introduced into a lower region of the vessel in a direction that is counter-current to a stream of alkali hydroxide and a stream of contaminated alkali halide so that a stream of treated alkali halide is produced though the reaction of the stream. Accordingly, Claim 15 and any claims dependent thereon are patentable over the cited references."

The Examiner respectfully disagrees. The particular streams that flow through the reactor (e.g., the alkali hydroxide stream, the contaminated alkali halide stream, the chlorine gas, and the treated alkali halide) are not considered part of the apparatus but an element of intended use, or a process limitation. Expressions relating the apparatus to contents thereof during an intended

operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, inclusion of a material or article worked upon by a structure being claimed does not impart patentability to the claims. *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935); *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963). A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Also, the reaction for forming a treated alkali halide stream has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

* * *

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449. The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer A. Leung
April 13, 2006

ALEXA DOROSHENK NECKEL
PRIMARY EXAMINER